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Excess Capacity: Who Gets the Charge From the Power Plant?

By ROGER D. COLTON*

Skyrocketing electricity rates are a major concern throughout the country. One factor often cited for high rates is the construction of more power plants than are needed to supply demand. An increasing number of utility rate cases involve claims that consumers should not pay costs due to excess generating capacity.¹ Public utility commissions in a number of states have recently examined the issues of whether utility companies maintain "excess capacity," and who should pay for such excess.²

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1. See, e.g., Iowa, Iowa Power & Light Co., Nos. RPU-78-27, RPU-78-30, RPU-80-36 (Iowa State Commerce Comm'n Feb. 27, 1982); Iowa-Illinois Gas & Elec. Co., 46 Pub. Util. Rep. (PUR) 4th 616 (Iowa State Commerce Comm'n 1982); Iowa Pub. Serv. Co., 46 Pub. Util. Rep. (PUR) 4th 339 (Iowa State Commerce Comm'n 1982); North Dakota, Montana-Dakota Util. Co., 44 Pub. Util. Rep. (PUR) 4th 249 (N.D. Pub. Serv. Comm'n 1981); Otter Tail Power Co., 44 Pub. Util. Rep. (PUR) 4th 219 (N.D. Pub. Serv. Comm'n 1981); and Ohio, Cleveland Elec. Illuminating Co., 46 Pub. Util. Rep. (PUR) 4th 63 (Ohio Pub. Serv. Comm'n 1982); Dayton Power & Light Co., 45 Pub. Util. Rep. (PUR) 4th 549 (Ohio Pub. Serv. Comm'n 1982); Cleveland Elec. Illuminating Co., 38 Pub. Util. Rep. (PUR) 4th 494 (Ohio Pub. Serv. Comm'n 1980); Dayton Power & Light Co., 29 Pub. Util. Rep. (PUR) 4th 145 (Ohio Pub. Serv. Comm'n 1979); Columbus & Southern Ohio Elec. Co., 24 Pub. Util. Rep. (PUR) 4th 261 (Ohio Pub. Serv. Comm'n 1978); Dayton Power & Light Co., 21 Pub. Util. Rep. (PUR) 4th 540 (Ohio Pub. Serv. Comm'n 1977); Monongehela Power Co., 21 Pub. Util. Rep. (PUR) 4th 376 (Ohio Pub. Serv. Comm'n 1977).

Not all considerations of the excess capacity issue have resulted in an excess capacity adjustment being made. For example, the Ohio commission in the cases cited above has refused to make an adjustment. See also Connecticut Light & Power Co., 41 Pub. Util. Rep. (PUR) 4th 2 (Conn. Dep't of Pub. Util. Control 1982); Central Ill. Pub. Serv. Co., No. 82-0039 (Ill. Commerce Comm'n Nov. 23, 1982).

2. In addition to Iowa, North Dakota, Ohio, Connecticut, and Illinois, see *supra* note 1, these states include Florida, Gulf Power Co., No. 810136-EU (CR) (Fla. Pub. Serv. Comm'n Feb. 1, 1982); Massachusetts, Western Mass. Elec. Co., 37 Pub. Util. Rep. (PUR) 4th 248 (Mass. Dep't Pub. Util. 1980); Western Mass. Elec. Co., 37 Pub. Util. Rep. (PUR) 4th 219 (Mass. Dep't Pub. Util. 1980); Minnesota, Minnesota Power & Light Co., No. E-015/GR-81-250 (Minn. Pub. Serv. Comm'n Apr. 30, 1982); Northern States Power Co., 32 Pub. Util. Rep. (PUR) 4th 58 (Minn. Pub. Serv. Comm'n 1980); Missouri, Kansas City

The determination of proper utility rates focuses on four factors: the "rate base" upon which the utility may earn a return on investment; the rate of return applied to this base; the depreciation costs of plant and equipment; and the allowable operating expenses.³ The component at issue in excess capacity litigation is the rate base. A utility's rate base is the capital investment devoted to, and necessary for, providing reasonably adequate service to customers.⁴ Rate base investments include power plants, transmission lines, office space for utility operations, and equipment with a useful life of one or more years.⁵ A utility company is entitled to a rate of return only on investments included in its rate base.⁶ Inclusion in the rate base of investment in excess generating capacity results in higher rates for consumers; exclusion, on the

Power & Light Co., 43 Pub. Util. Rep. (PUR) 4th 559 (Mo. Pub. Serv. Comm'n 1981); Kansas City Power & Light Co., No. ER-80-48 (Mo. Pub. Serv. Comm'n July 2, 1980); New York, Niagara Mohawk Power Corp., Nos. 27741, 27742, 27743 (N.Y. Pub. Serv. Comm'n Mar. 12, 1981); Niagara Mohawk Power Corp., 16 Pub. Util. Rep. (PUR) 4th 317 (N.Y. Pub. Serv. Comm'n 1976); Pennsylvania, Philadelphia Elec. Co., 42 Pub. Util. Rep. (PUR) 4th 475 (Pa. Pub. Util. Comm'n 1981); Philadelphia Elec. Co., 37 Pub. Util. Rep. (PUR) 4th 381 (Pa. Pub. Util. Comm'n 1980); Philadelphia Elec. Co., 31 Pub. Util. Rep. (PUR) 4th 15 (Pa. Pub. Util. Comm'n 1979); South Dakota, Northern States Power Co., No. F-3382 (S.D. Pub. Serv. Comm'n Dec. 15, 1981); and Wisconsin, Madison Gas & Elec. Co. v. Pub. Serv. Comm'n, 109 Wis. 2d 127, 325 N.W.2d 339 (1982); Wisconsin Elec. Power Co., No. 6630-ER-14 (Wis. Pub. Serv. Comm'n Jan. 13, 1982).

3. P. GARFIELD & W. LOVEJOY, PUBLIC UTILITY ECONOMICS 44-134 (1964). The traditional ratemaking equation is the following:

$$R = r(V - \Sigma D^s) + D^s + C + T;$$

$$T = z(y);$$

$$y = R - D^s - C - i; \text{ and}$$

$$i = u(d)(V - \Sigma D^s);$$

where R = revenue return; r = allowed rate of return; V = average gross value of assets; D^s = total amount of straight-line depreciation; C = operating costs other than interest and income taxes; y = taxable income; z = federal statutory income tax rate; u = interest paid on debt; and d = portion of assets financed by debt. This equation assumes no use of accelerated depreciation. Thus, no adjustments are made for tax/book timing differences. Further, this analysis assumes a static situation. Thus, no subscripts are used to designate years. A "given year" is presumed. See D. Kiefer, Accelerated Depreciation and the Investment Tax Credit in the Public Utility Industry: A Background Analysis 48-49 (Occasional Paper No. 1, Nat'l Regulatory Research Inst., Ohio St. Univ., Apr. 1979).

4. See generally Priest, *The Public Utility Rate Base*, 51 IOWA L. REV. 283 (1968).

5. J. SUELFLOW, PUBLIC UTILITY ACCOUNTING: THEORY AND APPLICATION 160 (1973).

6. The United States Supreme Court has held:

The rate base. As a right safeguarded by the due process clause of the Fifth Amendment, appellant is entitled to rates, not *per se* excessive and extortionate, sufficient to yield a reasonable rate of return upon the value of property used . . . to render the services. But he is not entitled to have included any property not used and useful for that purpose.

Denver Union Stockyard Co. v. United States, 304 U.S. 470, 475 (1934) (citations omitted). Cf. Glenwood Light & Water Co. v. City of Glenwood Springs, 98 Colo. 340, 55 P.2d 1339

other hand, puts the financial burden for such excess on utility companies and investors.

The setting of electricity rates by a state public utility commission, however, is not a simple mechanical calculation.⁷ Rather, it involves a sensitive balancing of the competing, multi-million dollar interests of consumers, utility companies, and investors.⁸ Consumers have a right to obtain energy services at reasonable cost.⁹ Utility commissions have the duty to protect customers from undue profit-taking resulting from a utility's state-granted monopoly status.¹⁰ Utility investors also have a right to receive a fair return on invested capital.¹¹ The commission must also protect these interests of investors to ensure that the utility can attract sufficient capital to operate.

State regulators have taken different approaches to the problem of excess capacity. In some states, a utility's entire investment in surplus generating capacity has been excluded from the costs chargeable to consumers.¹² In other instances, only the return on common equity¹³

(1936); *Davenport Water Co. v. Iowa State Commerce Comm'n*, 190 N.W.2d 583, 606 (Iowa 1971); *Narragansett Elec. Co. v. Kennelly*, 88 R.I. 56, 76-77, 143 A.2d 709, 721 (1958).

7. As the Florida Supreme Court so aptly noted: "Practical considerations also militate against making cost of service the exclusive criterion in rate setting. Virtually every court considering the matter has rejected out of hand a rule that would reduce ratemaking to an exercise in cost accounting." *International Minerals & Chem. Corp. v. Mayo*, 336 So. 2d 548, 551 (Fla. 1976). The Florida court continued: "Now and then a hearty soul, equipped with simple faith and a calculating machine, essays the adventure of rates based upon true costs of particular services. The feat is, of course, technically impossible for value judgments or empirical rules are essential to the distribution of overhead." *Id.* at 552.

8. In Iowa, for example, an elimination of a common equity return for Iowa Public Service Company would have cost the utility over seven million dollars *per year*. In New York, the commission imputed revenues to the utility of over thirteen million dollars *per year*. In Wisconsin, the utility had to write off over five million dollars as an uncompensated loss to investors.

The Iowa State Commerce Commission is one of the few commissions to articulate this balancing in the context of an excess capacity decision. The Iowa commission said: "Fairness requires compensation of investors' interest in receiving compensation for risks they reasonably assumed, while protecting customers from management decisions that unjustifiably increase the prices they pay." *Iowa Pub. Serv. Co.*, 46 Pub. Util. Rep. (PUR) 4th 339, 368 (Iowa State Commerce Comm'n 1982).

9. See P. GARFIELD & W. LOVEJOY, *supra* note 3, at 12 -13. Cf. *Illinois Power & Light Corp. v. Illinois State Commerce Comm'n*, 320 Ill. 427, 151 N.E. 236 (1926).

10. This duty is pursued through regulatory oversight of the overall level of rates, the revenue requirement. Until recently, state public service commissions were concerned almost exclusively with determining utility revenue requirements. J. BONBRIGHT, *PRINCIPLES OF UTILITY RATES* 277 n.1 (1961).

11. *Federal Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944); *Bluefield Water Works & Improvement Co. v. Public Serv. Comm'n*, 262 U.S. 679 (1923).

12. See, e.g., *Gulf Power Co.*, No. 810136-EU, slip op. at 23 (CR) (Fla. Pub. Serv. Comm'n Feb. 1, 1982); *Western Mass. Elec. Co.*, 37 Pub. Util. Rep. (PUR) 4th 219, 223

has been eliminated.¹⁴ In other cases, some but not all of the investor's profit has been disallowed.¹⁵

The thesis of this Article is that consumers should not pay the entire cost of excess capacity; rather, utility companies and investors should bear all or part of the burden. Part I introduces the two historic responses to the problem of excess capacity. The "used and useful" standard holds that consumers should not pay for any excess capacity costs, but only for power plants that are currently used and useful. The "prudent management" theory holds that if a decision to build a new power plant was prudent when it was made, customers should be required to pay for that plant.

Part II analyzes the three main contemporary approaches of utility commissions to determining whether utility plant investment is appro-

(Mass. Dep't Pub. Util. 1980); Wisconsin Elec. Co., No. 6630-ER-14, slip op. at 13 (Wis. Pub. Serv. Comm'n Jan. 13, 1982). *But see* Western Mass. Elec. Co., 37 Pub. Util. Rep. (PUR) 4th 248, 249-50 (Mass. Dep't Pub. Util. 1980) (subsequent inclusion of the excess peaking capacity on rehearing under unique circumstances without changing the legal reasoning which supported the original excess capacity adjustment).

13. Common equity is capital issued and stated at par value, stated value, or the cash value of the consideration received for such no-par stock, none of which is limited or preferred as to distribution of earnings or assets. EDISON ELEC. INST., GLOSSARY: ELECTRIC UTILITY RATEMAKING AND LOAD MANAGEMENT TERMS 16 (1978) [hereinafter cited as GLOSSARY]. For a complete discussion of the characteristics of "common stock" or "common equity," see generally B. WASSERSTEIN, CORPORATE FINANCE LAW: A GUIDE FOR THE EXECUTIVE 40-42 (1978).

14. *See, e.g.*, Otter Tail Power Co., 44 Pub. Util. Rep. (PUR) 4th 219, 228 (N.D. Pub. Serv. Comm'n 1981); Montana-Dakota Utilities Co., 44 Pub. Util. Rep. (PUR) 4th 249, 256 (N.D. Pub. Serv. Comm'n 1981); Northern States Power Co., No. F-3382, slip op. at 42 (S.D. Pub. Serv. Comm'n Dec. 15, 1981).

15. *See, e.g.*, Iowa Power & Light Co., Nos. RPU-78-27, RPU-78-30, RPU-80-36, slip op. at 12 (Iowa State Commerce Comm'n Feb. 27, 1982); Iowa-Illinois Gas & Elec. Co., 46 Pub. Util. Rep. (PUR) 4th 616, 622 (Iowa State Commerce Comm'n 1982); Iowa Pub. Serv. Co., 46 Pub. Util. Rep. (PUR) 4th 339, 370-71 (Iowa State Commerce Comm'n 1982).

In 1983, the Iowa General Assembly enacted legislation mandating that the Iowa State Commerce Commission impose a greater revenue adjustment for excess capacity found in that state's utility systems. The legislation said:

It is the intent of the general assembly of the state of Iowa to provide for the development of a fair resolution concerning the allocation of costs associated with excess electric generating capacity. It is the policy of this state that it is in the public interest that public utilities subject to rate regulation, at a minimum, be prohibited from including either directly or indirectly in their charges or rates to customers the return on common equity associated with excess electric generating capacity. . . .

Excess electric generating capacity is that portion of the public utility's electric generating capacity which exceeds the amount reasonably necessary to provide adequate and reliable service as determined by the commission.

H.F. 312, § 36, 70th Gen. Ass., 1st Sess. (1983).

priately called "excess."¹⁶ These include, in addition to the prudent-management and used-and-useful theories, and intermediate "shared risk" approach. This third standard divides the costs of excess capacity between consumers and utility companies and investors.

Part III criticizes the prudent-management approach on theoretical and practical grounds, and advocates use of either the shared-risk or used-and-useful standard. Finally, part IV examines methods of allocating excess capacity costs in accordance with the advocated standards.

Three recent Iowa cases are used throughout the discussion to illustrate the current debate on excess capacity.¹⁷ Decisions from other jurisdictions are examined for comparison.

An Introduction to the Controversy: Two Historic Approaches to Excess Capacity

When faced with an excess capacity issue, state public utility commissions historically have been presented with two opposing theories of regulation. These theories are based on the competing economic interests of ratepayers and investors. Consumer advocates argue that utility companies should not be allowed to charge ratepayers for the costs of excess capacity since such capacity is not being used to produce energy for present customers. This is known as the "used and useful" theory. Utility management responds that, because future energy use must be

16. This Article avoids discussion of the appropriate measurement of "investment in plant." Investment is usually measured in dollars for purposes of utility ratemaking, not in megawatts. This is because the capital invested in "utility plant" may be invested in more than just generating equipment. This Article, however, does not concern itself with the broader concept of investment upon which a rate of return is allowed. It is limited to the amount of generating capability that a utility maintains. Thus, for purposes of this Article, investment in capacity is measured by using nameplate ratings, net accredited ratings, or average available capability, among others. For a discussion of the complexities of making decisions as to the appropriate means of measuring "generating capacity," see *Niagara Mohawk Power Corp.*, Nos. 27741, 27742, 27743, slip op. at 11 n.1 (N.Y. Pub. Serv. Comm'n Mar. 12, 1981). A commission also may need to consider the deratings of plant in order to measure accurately "investment in utility plant." See, e.g., *Iowa Pub. Serv. Co.*, 46 Pub. Util. Rep. (PUR) 4th 339, 365-67, 371 (Iowa State Commerce Comm'n 1982).

17. *Iowa Power & Light Co.*, Nos. RPU-78-27, RPU-78-30, RPU-80-36 (Iowa State Commerce Comm'n Feb. 27, 1982); *Iowa-Illinois Gas & Elec. Co.*, 46 Pub. Util. Rep. (PUR) 4th 616 (Iowa State Commerce Comm'n 1982); *Iowa Pub. Serv. Co.*, 46 Pub. Util. Rep. (PUR) 4th 339 (Iowa State Commerce Comm'n 1982). Although the Iowa commission's excess capacity formula adjustments have been legislatively abrogated in favor of a stricter adjustment, see *supra* note 15, the analysis set forth in the commission's decisions remain valuable to aid in analyzing the excess capacity issue in general. No Iowa State Commerce Commission decision has yet been issued implementing Iowa's new, legislatively-mandated excess capacity adjustment.

forecast in advance, ratepayers should be responsible for plant construction decisions that were prudently made. This is known as the "prudent management" theory.

The consumer advocates assert that ratepayers should be responsible only for those costs that they cause.¹⁸ Excess capacity, they continue, will only provide services to a company's ratepayers if growth in demand requires its utilization. The need for a company to incur the costs of constructing the excess is thus attributable to that future demand, not to current customers. The consumer advocates conclude that current customers, not having caused the need, should not be responsible for the costs.

The "used and useful" concept has been established through judicial precedent stretching back over eighty years.¹⁹ For example, in the 1909 case of *Cedar Rapids Gaslight Co. v. Cedar Rapids*,²⁰ a utility company's investment in gas distribution plant was challenged in Iowa. In that case, the Cedar Rapids Gaslight Company's investment in pipelines to a new city annex was challenged as not providing service to current customers. Company witnesses countered that the investment in plant was a prudent management decision because "in view of the past growth of the city, these costs likely would soon be needed."²¹ The Iowa Supreme Court rejected that company argument and excluded the investment from rate base, stating:

The evidence is all but conclusive that [the pipelines] will not be required for immediate expansion of the work, even though the officers of the Company may have had this in contemplation. . . .

. . . .
. . . The lots or others may be required some time, but no man can determine the contingencies of the future, and it will not do to burden the patrons of today in order to provide for possible needs of those five or ten years hence, at least when this is conceded not to be necessary in order to provide for equal facilities when demanded.²²

A federal court was faced with a similar issue in *Saint Joseph Stockyard Co. v. United States*.²³ The United States Secretary of Agri-

18. See, e.g., *Iowa Power & Light Co.*, Nos. RPU-78-27, RPU-78-30, RPU-80-36, slip op. at 4-5 (Iowa State Commerce Comm'n Feb. 27, 1982); *Minnesota Power & Light Co.*, No. E-015/GR-81-250, slip op. at 4 (Minn. Pub. Serv. Comm'n Apr. 30, 1982); *Northern States Power Co.*, No. F-3382, slip op. at 16 (S.D. Pub. Serv. Comm'n Dec. 15, 1981).

19. See *Denver Union Stockyard Co. v. United States*, 304 U.S. 470, 475 (1934); *Smyth v. Ames*, 169 U.S. 466, 544-45 (1898).

20. 144 Iowa 426, 120 N.W. 966 (1909).

21. *Id.* at 436, 120 N.W. at 969.

22. *Id.*

23. 11 F. Supp. 322 (W.D.Mo. 1935), *aff'd*, 298 U.S. 38 (1935).

culture considered rates being charged by a stockyard in Missouri.²⁴ The company challenged the Secretary's decision to exclude nearly ninety acres of land from its rate base.²⁵ Of that ninety acres, approximately eighty acres were excluded as being "expansion land" not "used and useful" for providing service.²⁶ In approving the exclusion of this expansion land, the federal district court held:

The matter of including or excluding land or property for business expansion in the rate base is the matter of who—the ratepayer or the company—shall carry the property which is not being used to produce the service paid for by the rate. Obviously, . . . proper and good business judgment may sometimes dictate provision for future expansion of the business. It is equally clear that, so far as the present ratepayers are concerned, there must be a limit to the extent to which they can be compelled to pay for providing possible future facilities for future business.²⁷

In each of these early cases, the courts noted issues that have remained at the crux of ratemaking litigation: how the risk of carrying an investment should be apportioned between ratepayer and investor; the extent to which the prudence of the original construction decision weighs in determining ratemaking treatment of a later date; and the benefit that must accrue to current ratepayers before an obligation arises to pay for capacity. More recent rate cases involving excess capacity have explored these issues with regard to diverse types of utility service, including telephone,²⁸ natural gas,²⁹ electricity,³⁰ and sewer.³¹

Utility management typically responds to charges of excess electric

24. The Secretary had been empowered by Congress to regulate rates at stockyards. Packers and Stockyards Act of 1921, ch. 64, 42 Stat. 159 (codified at 7 U.S.C. §§ 181-229 (1976)). That statute had withstood a constitutional challenge. *Tagg Bros. & Moorhead v. United States*, 280 U.S. 420 (1930); *Stafford v. Wallace*, 258 U.S. 495 (1922).

25. *Saint Joseph Stockyard Co. v. United States*, 11 F. Supp. at 328.

26. *Id.* at 329.

27. *Id.*

28. *Northwestern Bell Tel. Co. v. State*, 216 N.W.2d 841 (Minn. 1974); *State v. Tri-State Tel. & Tel. Co.*, 284 N.W. 294 (Minn. 1939); *State ex rel. Utilities Comm'n v. Mebane Home Tel. Co.*, 257 S.E.2d 623 (N.C. 1979); *State ex rel. Util. Comm'n v. General Tel.*, 189 S.E.2d 705 (N.C. 1972). *Cf.* *New York Tel. Co.*, 2 Pub. Util. Rep. (PUR) 4th 1 (N.Y. Pub. Serv. Comm'n 1973); *General Tel. Co.*, 2 Pub. Util. Rep. (PUR) 4th 228 (N.C. Pub. Serv. Comm'n 1973).

29. *Northern States Power Co.*, 32 Pub. Util. Rep. (PUR) 4th 58 (Minn. Pub. Serv. Comm'n 1979); *Public Serv. Comm'n v. Montana-Dakota Util. Co.*, 100 N.W.2d 140 (N.D. 1959).

30. *See supra* notes 1-2.

31. *Quapaw Water Co.*, 39 Pub. Util. Rep. (PUR) 4th 259 (Ark. Pub. Serv. Comm'n 1980); *Fern Lake Co. v. Kentucky Pub. Serv. Comm'n*, 357 S.W.2d 701 (Ky. Ct. App. 1962); *Pine Brook Sewer Co.*, 74 Pub. Util. Rep. (PUR) 3d 370, 375 (N.J. Bd. Pub. Util. Comm'n 1968).

capacity by stating that company decisionmakers must forecast future energy use far enough in advance to allow for the construction of generating plants adequate to meet that demand.³² Current capacity surpluses, management asserts, are simply due to the inherent uncertainty in that long-term planning process. Surpluses result from a decrease in the growth in demand for electricity that was unforeseeable when the original decision to construct current power plants was made. Management concludes that if the decision to construct a plant was prudent at the time it was made, then the company should not be penalized for overconstruction.

This theory also has substantial historical precedent. In 1939, in *Wisconsin Telephone Co. v. Public Service Commission*,³³ the Wisconsin Supreme Court articulated a "prudent management" theory in denying a ratemaking adjustment for excess telephone plant. Declaring that "what the Company had failed to do was to foresee the length and depth of the depression,"³⁴ the Wisconsin court overturned the state public service commission's decision to exclude eight percent of Wisconsin Telephone Company's plant from the rate base.³⁵ The court stated:

The Commission interprets the law . . . to mean that all property should be excluded from the rate base which is not in actual use plus a reasonable tolerance for the future If the theory of the Commission is sound, then rates are to be constructed on the basis of remanagement of the property in light of experience and present conditions. We do not so understand the law.³⁶

The Wisconsin court criticized the decision to exclude plant "without in any way impeaching the discretion of the managers."³⁷ It said that, "[w]hile the Company must bear the burden of an unreasonable extension of its plant and the risk that portions of it prudently acquired may become obsolete or not useful, it should not be penalized for failure exactly to anticipate future demands for service in a period of depression."³⁸

32. See, e.g., *Minnesota Power & Light Co.*, No. E-015/GR-81-250, slip op. at 6 (Minn. Pub. Serv. Comm'n Apr. 30, 1982) ("MP&L further contended that its current excess capacity did not result from inaccurate forecasting, but from radical changes in the economy and the mining industry which MP&L could not reasonably be expected to have anticipated.").

33. 232 Wis. 274, 287 N.W. 152 (1939).

34. *Id.* at 276, 287 N.W. at 155.

35. The court concluded that "the amount of excess plant does not at the most exceed 2%." *Id.* at 278, 287 N.W. at 158.

36. *Id.* at 278-79, 287 N.W. at 157-58.

37. *Id.* at 278, 287 N.W. at 158.

38. *Id.*

The Oregon Supreme Court also refused to make an excess capacity adjustment for telephone equipment. In *Pacific Telephone & Telegraph Co. v. Wallace*,³⁹ the court held that the "facts do not disclose that [the company's] construction of additional plant was reckless or unwarranted."⁴⁰ When company investments are not shown to have been made in bad faith, the court continued, "managerial discretion . . . ought not be . . . easily impugned."⁴¹ Historically, therefore, when excess capacity adjustments were overturned, company management was given wide latitude to make good faith decisions and place upon the customer the burden of paying for those decisions.

The basic controversy thus presents a competition between two historically well-accepted regulatory theories. One theory states that utility rates should be based upon prudent investments. The opposing theory is that consumers should only be charged for investments that are currently "used and useful" in providing electric service. State utility commissions must choose between these theories to resolve rate disputes when excess electric generating capacity is at issue.

Who Pays for Excess Capacity: Contemporary Responses

The construction of electric generating plants to provide sufficient generating capacity for the needs of a utility's customers⁴² is a long-term proposition. Depending on the type of capacity desired,⁴³ the lead

39. 158 Or. 210, 75 P.2d 942 (1938).

40. *Id.* at 234, 75 P.2d at 952.

41. *Id.*

42. A company is held to need enough capacity to meet its peak demand and provide an adequate reserve margin. Many states have prescribed upper limits on what reserve margins are reasonable. See, e.g., Iowa Pub. Serv. Co., 46 Pub. Util. Rep. (PUR) 4th 339, 368-69 (Iowa State Commerce Comm'n 1982); Niagara Mohawk Power Co., Nos. 27741, 27742, 27743, slip op. at 10 (N.Y. Pub. Serv. Comm'n Mar. 12, 1982); Philadelphia Elec. Co., 37 Pub. Util. Rep. (PUR) 4th 381, 388 (Pa. Pub. Util. Comm'n 1980); Northern States Power Co., No. F-3382, slip op. at 16 (S.D. Pub. Serv. Comm'n Dec. 15, 1981).

The Ohio commission strongly objects to any approach that assumes that an ideal reserve margin can be established above which capacity is deemed excess. The commission states:

[I]t is most inappropriate to measure the reasonableness of existing capacity levels by a simple comparison to some assumed ideal reserve margin. Reserve requirements are company specific, and what is reasonable for one electric utility may not be reasonable for another depending on factors such as unit sizes and generation mix.

Cleveland Elec. Illuminating Co., 38 Pub. Util. Rep. (PUR) 4th 494, 508 (Ohio Pub. Serv. Comm'n 1980). Cf. Minnesota Power & Light Co., No. E-015/GR-81-250, slip op. at 7-8 (Minn. Pub. Serv. Comm'n Apr. 30, 1982) (two commissioners dissenting).

43. Demand for electrical energy is not constant either on a daily or seasonal basis. Rather, demand fluctuates between peaks and valleys. Daily peaks usually are reached in

times for construction may range from as little as six years for turbine peaking units, to ten years for coal-fired base load units, and to as much as thirteen years for nuclear plants.⁴⁴ An electric utility must forecast demand far enough in advance to allow new generating capacity to be in operation when the anticipated demand occurs.⁴⁵

Levels of demand that are forecast ten or more years in advance, however, are highly uncertain.⁴⁶ Demand depends on several economic variables, including price, consumer income, the level of economic activity in general, and the number of customers.⁴⁷ If the utility's forecast of any one of these factors is high, then the company's projected need for capacity will probably be high as well.⁴⁸ The result-

the early morning (7:00 - 9:00 a.m.) and early evening (4:00 - 7:00 p.m.). Seasonal peaks are usually reached on the hottest day of the summer (except for systems having a substantial amount of electric heat). Peak periods are of short duration and involve high demand (kilowatts—kW) but little consumption (kilowatt hours—kWh). A number of types of capacity are available to meet these varying levels of demand. Base load plants are used for the amount of demand which is constant. These plants are generally large coal or nuclear-fired generation, with high capital costs (which can be spread over a large number of kWhs resulting in a low cost per unit of energy) and low fuel costs. Peaking units are used for the high-demand periods. These plants are generally gas or oil-fired turbine units, with low capital costs and high fuel costs. See generally R. POTTER, POWER PLANT THEORY AND DESIGN 623-41 (1959).

44. ELEC. POWER RESEARCH INST. (EPRI), COSTS AND BENEFITS OVER/UNDER CAPACITY IN ELECTRIC POWER SYSTEM PLANNING 3-2 to -3 (1978). This entire time, however, is not devoted to construction. There are three steps: 1) studies, 2) regulatory licensing, and 3) construction and start-up. The actual construction and start-up time is, at most, half of the time involved. *Id.* at 3-3.

45. There are a number of decision points, however, at which a utility company can re-evaluate the proposed plant and postpone construction. These decision points exist both prior to initial construction, see, e.g., Gulf Power Co., No. 810136-EU (CR), slip op. at 21-23 (Fla. Pub. Serv. Comm'n Feb. 1, 1982), and during construction, see, e.g., Wisconsin Elec. Power Co., No. 6630-ER-14, slip op. at 11-13 (Wis. Pub. Serv. Comm'n Jan. 13, 1982).

46. *But cf. infra* text accompanying notes 100-03.

47. Some mechanisms do exist to lessen forecast uncertainty. The Iowa commission said:

With currently available forecasting methodologies, it should be possible for Iowa utilities to make better predictions of potential demand. We believe, in light of recurring allegations by Staff and consumers that Iowa utilities have overbuilt, utilities should begin investigating the reasonableness of their existing forecasting methods and explore the feasibility of alternatives.

Iowa Power & Light Co., Nos. RPU-78-27, RPU-78-30, RPU-80-36, slip op. at 7 (Iowa State Commerce Comm'n Feb. 27, 1982). For an excellent description of the advantages and disadvantages of various forecasting methodologies, see U.S. DEP'T OF ENERGY, PROCEDURES FOR ANALYSIS OF ELECTRIC ENERGY AND PEAK LOADS BY STATE AGENCIES (July 1978).

48. This does not mean, however, that a company must maintain excess capacity. As the North Dakota commission observed, a utility company can generally be expected to sell its excess capacity to other members of the power pool. Montana-Dakota Util. Co., 44 Pub. Util. Rep. (PUR) 4th 249, 255 (N.D. Pub. Serv. Comm'n 1981); Otter Tail Power Co., 44

ing overconstruction to provide for demand that never materializes results in allegations of "excess capacity."

A utility must engage in the inherently uncertain process of forecasting demand over a considerable period of time.⁴⁹ Present actions must be based on the forecast despite of its uncertainty.⁵⁰ The question that utility regulators must answer is: who should pay for errors in forecasting? State public utility commissions have given inconsistent answers to this question.⁵¹

Prudent Management Decisions

State public utility commissions that apply the "prudent management" theory concentrate review on the utility industry's decisionmaking *process* rather than on the results of the decision. When this approach is followed, analysis of excess capacity ends if the utility establishes that the original decision to construct generating plant was a prudent management decision.⁵¹ This approach denies a rate adjustment absent some finding of imprudence on the part of the utility. When construction expenditures are not "extravagant or imprudent," stockholders are allowed a full return on their investment. The commissions ask whether "given all those factors which can influence construction and load growth, the company can be fairly said to have acted in its capacity planning."⁵²

Pub. Util. Rep. (PUR) 4th 219, 227 (N.D. Pub. Serv. Comm'n 1981). The New York commission went so far as to hold that the *actual* existence of a market to sell in the power pool was irrelevant to any excess capacity determination. Niagara Mohawk Power Corp., Nos. 27741, 27742, 27743, slip op. at 12, 14 (N.Y. Pub. Serv. Comm'n Mar. 12, 1981).

49. Inherent uncertainty is to be contrasted with willful blindness as to decreased electric demand. *Compare* Minnesota Power & Light Co., No. E-015/GR-81-250, slip op. at 8 (Minn. Pub. Serv. Comm'n Apr. 30, 1982) with Gulf Power Co., No. 810136-EU (CR), slip op. at 20-23 (Fla. Pub. Serv. Comm'n Feb. 1, 1982).

50. This occurs not only between states, but within a state as well. *Compare* Northern States Power Co., 32 Pub. Util. Rep. (PUR) 4th 58, 70-71 (Minn. Pub. Serv. Comm'n 1980) (adjusted excess capacity out of rate base; rejected prudent-management test), with Minnesota Power & Light Co., No. E-015/GR-81-250, slip op. at 7-8 (Minn. Pub. Serv. Comm'n Apr. 30, 1982) (refused to make excess capacity adjustment; adopted a prudent-management test), and Philadelphia Elec. Co., 31 Pub. Util. Rep. (PUR) 4th 15, 27 (Pa. Pub. Util. Comm'n 1979) (unwilling to make any adjustment based on alleged excess capacity), with Philadelphia Elec. Co., 37 Pub. Util. Rep. (PUR) 4th 381, 387 (Pa. Pub. Util. Comm'n 1980) (the evidence found lacking in the former case is present in this case).

51. *See, e.g.,* Minnesota Power & Light Co., No. E-015/GR-81-250, slip op. at 8 (Minn. Pub. Serv. Comm'n Apr. 30, 1982); Dayton Power & Light Co., 45 Pub. Util. Rep. (PUR) 4th 549, 556 (Ohio Pub. Serv. Comm'n 1982); Cleveland Elec. Illuminating Co., 38 Pub. Util. Rep. (PUR) 4th 494, 508 (Ohio Pub. Serv. Comm'n 1980).

52. Southern Cal. Edison Co., 23 Pub. Util. Rep. (PUR) 4th 44, 53 (Fed. Power Comm'n 1977). *Cf.* New York Tel. Co., 2 Pub. Util. Rep. (PUR) 4th 1, 17 (N.Y. Pub. Serv. Comm'n 1973).

Commissions applying the prudent-management standard have been reluctant to label a decision "imprudent" in view of the historic uncertainty in predicting demand. In one early excess capacity decision, for example, the New York Public Service Commission held that "while efforts to improve [New York Telephone's] forecasting procedures are necessary," the particular overconstruction complained of had not resulted from more than "the usual obscurities of the crystal ball."⁵³ More recently, the Federal Power Commission⁵⁴ dismissed a proposed electric excess capacity adjustment by almost casually stating, "it is in the nature of things that projections of future circumstances are rarely precise."⁵⁵ Regulators have also been reluctant to find construction decisions imprudent because of the long time required for construction, which only adds to the inherent difficulty of predicting demand.⁵⁶

Finally, a finding of imprudence in the construction of excess capacity is unlikely because of the utility's stringent obligation to provide adequate service.⁵⁷ It is difficult to demonstrate imprudence in decisions to construct additional generating capacity⁵⁸ in light of the "near panic over the possibility of shortages of electricity" which existed in the early 1970's.⁵⁹ Indeed, although still making an excess capacity adjustment, the Iowa commission observed that "[t]en years ago, there

53. New York Tel. Co., 2 Pub. Util. Rep. (PUR) 4th 1, 18 (N.Y. Pub. Serv. Comm'n 1973). The continued validity of this decision is to be questioned in light of the more recent New York PSC decisions in the *Niagara Mohawk* cases. See *Niagara Mohawk Power Corp.*, Nos. 27741, 27742, 27743 (N.Y. Pub. Serv. Comm'n Mar. 12, 1982); *Niagara Mohawk Power Corp.*, 16 Pub. Util. Rep. (PUR) 4th 317 (N.Y. Pub. Serv. Comm'n 1976).

54. Now the Federal Energy Regulatory Commission (FERC).

55. Southern Cal. Edison Co., 23 Pub. Util. Rep. (PUR) 4th 44, 52 (Fed. Power Comm'n 1977).

56. *Id.*; Cleveland Electric Illuminating Co., 38 Pub. Util. Rep. (PUR) 4th 494, 508 (Ohio Pub. Serv. Comm'n 1980) ("assuming appropriate reserve criteria can be established. . . . it is obviously unrealistic to assume that any utility would have the forecasting capability which would allow it to add capacity in the precise increments required to maintain the theoretically appropriate margin").

57. See *Iowa-Illinois Gas & Elec. Co.*, 46 Pub. Util. Rep. (PUR) 4th 616, 622 (Iowa State Commerce Comm'n 1982). Cf. Note, *The Duty of a Public Utility to Render Adequate Service: Its Scope and Enforcement*, 62 COLUM. L. REV. 312 (1962). For a general discussion of the failure to provide adequate power, see Annot., 4 A.L.R.3d 594 (1965).

58. Imprudence is not impossible to demonstrate, however. This is largely true because imprudence can arise after the initial decision to construct. In Wisconsin, imprudence was attributed to the company's failure to reconsider its construction program in progress in light of lowered demand. *Wisconsin Elec. Power Co.*, No. 6630-ER-14, slip op. at 13 (Wis. Pub. Serv. Comm'n Jan. 13, 1982). In Missouri, it was the failure of the company to delay the construction schedule of the plant which resulted in a finding of imprudence. *Kansas City Power & Light Co.*, No. ER-80-48, slip op. at 21 (Mo. Pub. Serv. Comm'n July 2, 1980).

59. *Iowa Power & Light Co.*, Nos. RPU-78-27, RPU-78-30, RPU-80-36, slip op. at 23

was good reason to believe existing plant would not adequately serve future needs and we encouraged utilities to invest in additional capacity."⁶⁰ If the only test applied is the prudence of decisionmaking, government-sanctioned pressure to construct eliminates the right to disallow recovery of the costs.⁶¹ The Minnesota commission reasoned that "[i]t would be a harsh regulatory principle to require [Minnesota Power & Light] to construct generating capacity to meet what was then a clearly expanding demand for electricity and to later penalize MP&L for doing what it and the appropriate jurisdictional agencies found to be reasonable at the time."⁶² Under a prudent-management theory, therefore, if a company's capacity was built as part of a good faith ef-

(Iowa State Commerce Comm'n Feb. 27, 1982) (Commissioner Moore dissenting). Cf. Philadelphia Elec. Co., 31 Pub. Util. Rep. (PUR) 4th 15, 27 (Pa. Pub. Util. Comm'n 1979).

60. Iowa Power & Light Co., Nos. RPU-78-27, RPU-78-30, RPU-80-36, slip op. at 6 (Iowa State Commerce Comm'n Feb. 27, 1982); Iowa Pub. Serv. Co., 46 Pub. Util. Rep. (PUR) 4th 339, 367 (Iowa State Commerce Comm'n 1982).

61. A similar situation exists when construction of additional capacity is approved by the commission. In some excess capacity cases, the utility company had argued that the commission is estopped from making a rate adjustment when prior approval has been given in a power plant certification proceeding. The Minnesota commission accepted this argument and refused to make an excess capacity adjustment. Minnesota Power & Light Co., No. E-015/GR-81-250, slip op. at 7, 10 (Minn. Pub. Serv. Comm'n Apr. 30, 1982). This, however, is a distinctly minority viewpoint. Among the states rejecting the argument are Missouri, in Kansas City Power & Light Co., No. ER-80-48, slip op. at 18-19 (Mo. Pub. Serv. Comm'n July 2, 1980); North Dakota, in Otter Tail Power Co., 44 Pub. Util. Rep. (PUR) 4th 219, 227 (N.D. Pub. Serv. Comm'n 1981); and Iowa, in Iowa Pub. Serv. Co., 46 Pub. Util. Rep. (PUR) 4th 339, 364, 370 (Iowa State Commerce Comm'n 1982). Instructive is the language of the Iowa commission in an administration rulemaking order intended to institutionalize methods for excess capacity adjustments. *Ratemaking Treatment of Excess Electric Utility Generating Capacity*, ISCC Docket No. RMU-82-4 (Sept. 1979). The commission said:

While recognizing we have an opportunity to examine a utility's planning process when an application for a certificate to begin plant construction is filed, we do not agree with the utilities who say our supervision of plant construction should end when the certificate is issued. As has been apparent during the last 10-year period, projections of growth and demand considered during the certification process may not be realized due to changing economic conditions, international events and the appearance of new national and state policy considerations. Improvements in forecasting may be discovered. We must make sure utility companies respond to such changes, perhaps by modifying their construction plans. We have also seen the effect of rapid inflation on utility company construction costs during the past ten years, and we owe ratepayers a thorough investigation of costs associated with construction of new plant to prevent imprudent cost overruns and inclusion of unnecessary and excessive costs in the rates they will eventually pay for service provided by the new facility. We, therefore, reject the proposals that we confine our review of a utility company's capacity planning process to certification proceedings.

Id. at 3-4 (Order Requiring Additional Information issued Sept. 29, 1982).

62. Minnesota Power & Light Co., No. E-015/GR-81-250, slip op. at 7 (Minn. Pub. Serv. Comm'n Apr. 30, 1982).

fort to meet service demands and to remedy or prevent service failures,⁶³ the investment should not later be deemed "unreasonable" due to circumstances beyond the company's control.

Shared Risk

State utility commissions that exclude part of excess capacity from the rate base hold that electric ratepayers should not bear sole responsibility for erroneous demand forecasts. Costs are apportioned because these regulators do not attribute "blame" for the error. The North Dakota utility commission, for example, conceded a company's "inability to accurately predict the future,"⁶⁴ just as the New York commission acknowledged that during the construction of a generating plant "changes in economic conditions may result in the company having capacity in excess of its optimum objective."⁶⁵ The utilities have not, however, been treated as if their forecasts were accurate. The South Dakota agency expressly rejected the notion that "ratepayers alone should keep the company afloat *as if* the erroneous predictions had been accurate."⁶⁶

One of the risks that an investor in any business must bear is the possibility of overprojecting demand and, as a consequence, building unneeded production capability.⁶⁷ The "shared risk" commissions take the position that the existence of regulation does not relieve the utility stockholder of such risk. The Missouri commission observed in making an excess capacity adjustment that "the owners of the property must realize that they are exposed to the same hazards of business as any other business."⁶⁸ It has also long been held that utility regulation is not to be used to insure the value of an investment, nor should rates

63. New York Tel. Co., 2 Pub. Util. Rep. (PUR) 4th 1, 18 (N.Y. Pub. Serv. Comm'n 1973); State *ex rel.* Util. Comm'n v. Mebane Home Tel. Co., 257 S.E.2d 623, 633, 32 Pub. Util. Rep. (PUR) 4th 340, 350 (N.C. 1979) (citing North Carolina v. General Tel. Co., 189 S.E.2d 705, 727 (N.C. 1972). But see Philadelphia Elec. Co., 37 Pub. Util. Rep. (PUR) 4th 381, 387 (Pa. Pub. Util. Comm'n 1980).

64. Montana-Dakota Util. Co., 44 Pub. Util. Rep. (PUR) 4th 249, 255 (N.D. Pub. Serv. Comm'n 1981); Otter Tail Power Co., 44 Pub. Util. Rep. (PUR) 4th at 219, 227 (N.D. Pub. Serv. Comm'n 1981).

65. Niagara Mohawk Power Corp., 16 Pub. Util. Rep. (PUR) 4th 317, 329 (N.Y. Pub. Serv. Comm'n 1976).

66. Otter Tail Power Co., 44 Pub. Util. Rep. (PUR) 4th 219, 227 (N.D. Pub. Serv. Comm'n 1981) (emphasis added). See also Montana-Dakota Util. Co., 44 Pub. Util. Rep. (PUR) 4th 249, 255-56 (N.D. Pub. Serv. Comm'n 1981).

67. Northern States Power Co., 32 Pub. Util. Rep. (PUR) 4th 58, 72 (Minn. Pub. Serv. Comm'n 1980).

68. Middle States Util. Co. of Missouri, 36 Pub. Util. Rep. (PUR) 2d 231, 241 (Mo. Pub. Serv. Comm'n 1940). Cf. Montana-Dakota Util. Co., 44 Pub. Util. Rep. (PUR) 4th 249,

be fixed "on an investment after it has vanished."⁶⁹ A similar analysis can be applied in an excess capacity situation. While the construction of excess generating plant is not an investment that has "vanished," it is certainly an investment the value of which has not come to fruition at the time and in the manner initially anticipated by the shareholder.⁷⁰ The shared-risk approach divides the risk of loss between ratepayers and investors and apportions the cost accordingly.⁷¹

Placing the risk of not receiving a full return on equity upon common stockholders is in part justified by the compensation that those investors receive to take such risks. Common stockholders are generally considered to contribute what is known as the "risk capital" to a utility company for which they receive a compensatory⁷² rate of return.⁷³ Among the uncertainties that they accept in return for this added compensation is the "danger of any earnings shortfalls, for whatever reason."⁷⁴ The Iowa State Commerce Commission noted that inherent in the concept of regulation is the possibility that an expenditure may be disallowed:

Investors in a utility company are aware of the regulated nature of their enterprise and of the risk that a regulatory commission will not permit every cost incurred by the utility to be passed on to the ratepayers. If it were otherwise there would be little if any risk associated with equity capital and a corresponding downward adjustment

255 (N.D. Pub. Serv. Comm'n 1981); Otter Tail Power Co., 44 Pub. Util. Rep. (PUR) 4th 219, 227 (N.D. Pub. Serv. Comm'n 1981).

69. Market Street Ry. v. Railroad Comm'n, 324 U.S. 548, 567 (1944).

70. This is not to say that the investment will not come to fruition and that a return cannot be realized on excess capacity. If a company successfully sells its unneeded capacity, the revenues it receives will inure to the benefit of the shareholders and a return on investment will be collected.

71. See, e.g., Northern States Power Co., No. F-3382, slip op. at 42 (S.D. Pub. Serv. Comm'n Dec. 15, 1981).

72. "Compensatory" does not necessarily mean a higher rate of return although traditionally a return on common equity has exceeded the return on preferred equity and the debt expense. This higher return was based on the observation that in the case of default, debt holders and preferred stockholders are paid before equity shareholders, thus decreasing the risk of that investment. This traditional view has been challenged in recent years by the theory that, particularly in periods of high inflation, a return on common equity is less than debt and preferred stock returns. See Copeland, *Inflation, Interest Rates and Equity Risk Premia*, FIN. ANALYSTS J., May-June 1982, at 32; Taylor and Peake, *A Utility's Cost of Common Equity May Be Less Than Its Cost Rate for New Debt*, PUB. UTIL. FORT., June 24, 1982, at 23.

73. In contrast, preferred stockholders are guaranteed payment of dividends and receive a correspondingly lower return. Preferred stock is often viewed more as long-term debt rather than equity capital. See J. BONBRIGHT, *supra* note 10, at 242-45; see also B. WASSERSTEIN, *supra* note 13, at 42-45.

74. Northern States Power Co., No. F-3382, slip op. at 42 (S.D. Pub. Serv. Comm'n Dec. 15, 1981).

would be required in our cost of equity determination.⁷⁵

Expense and rate base adjustments, the Iowa State Commerce Commission noted, are routinely ordered by all public utility commissions.⁷⁶ Conceptually, an adjustment to rate base due to the presence of excess generating capacity is a similar type of regulatory agency action.⁷⁷

Another conceptual basis for excess capacity adjustments under the shared risk approach is the presence of intended reciprocal benefits associated with the original decision to construct new capacity. One purpose of the construction of new generating plant is to assure that energy will be available to ratepayers upon demand. It cannot be forgotten, however, that the provision of energy is not a gratuitous act on the part of a public utility, but a profit-seeking venture. Further, the amount of the total profit is directly related to the amount of a company's capital investment.⁷⁸ The public utility stockholder invests in new power plants not as a charitable gesture to electricity consumers, but as a means through which substantial financial gain can be realized. Both the investor and the customer have legitimate expectation interests that can be fulfilled by the construction of a new utility plant.⁷⁹ Neither of these expectation interests, however, can be realized without the presence of the other. Protecting the company's profits while placing the entire risk of loss on the customer ignores the balancing of economic interests that underlies public utility ratemaking.⁸⁰

Using either of the above theories, whether it be a compensated

75. Iowa-Illinois Gas & Elec. Co., 46 Pub. Util. Rep. (PUR) 4th 616, 623 (Iowa State Commerce Comm'n 1982).

76. For example, in its decision in Iowa Pub. Serv. Co., 46 Pub. Util. Rep. (PUR) 4th 339 (Iowa State Commerce Comm'n 1982), the Iowa commission adjusted a company's rate base to exclude certain construction work in progress, and to exclude a lease that the company proposed to capitalize rather than to expense. *Id.* at 344, 349-351. The commission also excluded substantial expenses associated with the purchase of coal from its affiliate coal company. *Id.* at 354-63.

77. A regulator must determine what rates are just and reasonable. Assuming that a commission decides that just and reasonable rates cannot include charges for utility plant which is not useful to present customers, an adjustment either to exclude construction work in progress or to exclude excess capacity could be made. The conceptual and theoretical bases for either exclusion would be the same. K. HOWE & E. RASMUSSEN, PUBLIC UTILITY ECONOMICS AND FINANCE 92 (1982).

78. See *supra* text accompanying notes 3-6.

79. This statement assumes a prudent management decision in constructing the capacity termed "excess." Without such a prudent decision, investors would have no "legitimate" expectation interest in receiving a return on their investment.

80. Philadelphia Elec. Co., 37 Pub. Util. Rep. (PUR) 4th 381, 389 (Pa. Pub. Util. Comm'n 1980).

risk-taking⁸¹ or an allocation of costs based on equity considerations,⁸² the investor and the ratepayer each pay for part of the costs due to excess capacity on an electric system.

Used and Useful

The "used and useful" concept requires utility property to be actually in use and providing service to customers in order for it to be included in a company's rate base.⁸³ The standard "is based on the principle that ratepayers should provide shareholders with a return only on so much of the utility's investment that is actually in use and needed to meet their demands."⁸⁴ This regulatory concept presents a well-defined rule for determining what properties will be allowed into a company's rate base. Once it has been decided that facilities are not necessary for the provision of service, there can be no principled rationale for their inclusion in rate base. This theory does not consider the process that caused the acquisition of excess capacity, or the intentions of utility management.⁸⁵

Utility commissions in recent decisions have consistently refused to use a strict application of the used-and-useful standard.⁸⁶ This refusal is based on the view that the concept does not appropriately balance the interests of ratepayers and investors. The used-and-useful test fails to take into account the degree of management error inherent in decisions to increase capacity.⁸⁷ Even the Minnesota Public Service Commission, which stated flatly that "the public [should not] be burdened with paying a return on plant not useful to them,"⁸⁸ went on to state that the excess plant would be included in the rate base as soon as

81. See *supra* text accompanying notes 72-77.

82. See *supra* text accompanying notes 78-80.

83. *Smyth v. Ames*, 169 U.S. 466, 544 (1898).

84. *Iowa Pub. Serv. Co.*, 46 Pub. Util. Rep. (PUR) 4th 339, 368 (Iowa State Commerce Comm'n 1982). This standard has been established through a long line of judicial precedent stretching back over 80 years. See *supra* note 6.

85. The theory of excluding property not "used and useful" is applied in a number of situations. Construction Work in Progress (CWIP), involving plant which is not yet completed and rendering service, has been excluded as not used and useful. Land held for future use, *i.e.*, land purchased without a definite and reasonably imminent plan for development, has also been excluded.

86. See, *e.g.*, *Iowa Pub. Serv. Co.*, 46 Pub. Util. Rep. (PUR) 4th 339, 367 (Iowa State Commerce Comm'n 1982); *Wisconsin Elec. Power Co.*, No. 6630-ER-14 (Wis. Pub. Serv. Comm'n Jan. 13, 1982).

87. *Iowa Pub. Serv. Co.*, 46 Pub. Util. Rep. (PUR) 4th 339, 370 (Iowa State Commerce Comm'n 1982).

88. *Northern States Power Co.*, 32 Pub. Util. Rep. (PUR) 4th 58, 72 (Minn. Pub. Serv. Comm'n 1980).

the company had plans for "imminent use."⁸⁹ Recent utility commission decisions finding the presence of excess capacity tend to fashion a cost-sharing remedy rather than to impose the complete cost of the excess on shareholders.

Evaluation: Why the Prudent-Management Approach Is Inadequate

Both the shared-risk and the used-and-useful theories are better responses to the overconstruction of electric generating capability than is the prudent-management approach. The arguments advanced in support of a prudent-management approach fail on several levels.

On a conceptual level, the prudent-management approach misconstrues the purpose of an excess capacity adjustment. An adjustment for excess capacity is simply a cost-apportionment mechanism, so the lack of company culpability in constructing surplus generation is irrelevant. The federal court in *Saint Joseph Stockyard* simply asked "who shall carry the property," not "who is to blame."⁹⁰ As the Pennsylvania commission aptly noted: "[t]he sudden burden of this new plant investment on the company's customers was no fault of Penn Power or of its investors; but neither was it the fault of the ratepayers . . . [so] there must be some sharing of the risk associated with bringing large plants on line."⁹¹

Whether an excess capacity adjustment is a "penalty" is a dispute that concerns the conceptual foundation of regulatory action.⁹² Talk of "penalties" and "sanctions" implies a finding of company culpability and accompanying regulatory intent to punish. Such an approach goes beyond the cost-allocation that commissions have sought to apply through a shared-risk approach.⁹³

Unfortunately, utility commissions can be careless in their choice of language articulating excess capacity adjustments. Talk of "penal-

89. *Id.* at 72-73.

90. *Saint Joseph Stockyard Co. v. United States*, 11 F.Supp. 322, 329 (W.D. Mo. 1935), *aff'd*, 298 U.S. 38 (1935). See *supra* notes 23-27 & accompanying text.

91. *Philadelphia Elec. Co.*, 37 Pub. Util. Rep. (PUR) 4th 381, 387 (Pa. Pub. Util. Comm'n 1980).

92. The difference becomes particularly apparent in an examination of the Minnesota utility commission's decision in *Northern States Power Co.*, 32 Pub. Util. Rep. (PUR) 4th 58, 72 (Minn. Pub. Serv. Comm'n 1980).

93. As the Pennsylvania Public Utilities Commission said: "The fact that excessive plant investments were prudent when made does not necessarily preclude the Commission from *alloting responsibility for their cost*." *Philadelphia Elec. Co.*, 37 Pub. Util. Rep. (PUR) 4th 381, 387 (Pa. Pub. Util. Comm'n 1980) (emphasis added). Such an allocation is the primary purpose of a cost-sharing approach.

ties" and "sanctions" implies that a commission *has* rendered an adverse decision regarding the judgment of the company.⁹⁴ In Iowa, for example, the return on equity associated with excess capacity is reduced in inverse proportion to the extent of the excess.⁹⁵ The Iowa commission justified this sliding-scale approach by reasoning that a company which has just slightly exceeded the amount of capacity considered to be reasonable should not be penalized as much as a company which has significantly exceeded the bounds of reasonableness.⁹⁶ Any proposal, the commission said, which imposes a uniform adjustment regardless of the extent of the excess fails to take into account the "gradation of management error."⁹⁷ In contrast, the South Dakota commission expressly disclaimed interpretation of its adjustment as a "penalty."⁹⁸

The prudent-management approach fails on a policy level as well. Narrowing inquiry to the time of the initial decision to build provides no incentive for a utility to improve its decisionmaking process to avoid excess capacity. State regulators have sought to address this problem by placing upon investors part of the risk of error. As the Iowa commission said: "The utility which fails to recognize ratepayers will not be required to subsidize unnecessary expansion of generating plant facilities will bear the financial consequences of their excess investment."⁹⁹ An excess capacity adjustment should encourage companies to engage in critical self-review of their corporate planning.

First, demand forecasting is the basis for all capacity-expansion decisions. Although clearly imprudent forecasting will result in total

94. Why else, in other words, should a stockholder be punished if: 1) no wrong has been committed; 2) any wrong that may have been committed was inadvertent or unintentional; or, worst of all, 3) if the wrong had been specifically encouraged or approved by the same regulator who subsequently imposed the punishment.

95. See *infra* notes 115-17 & accompanying text.

96. Iowa Power & Light Co., Nos. RPU-78-27, RPU-78-30, RPU-80-36, slip op. at 11 (Iowa State Commerce Comm'n Feb. 27, 1982); Iowa-Illinois Gas & Elec. Co., 46 Pub. Util. Rep. (PUR) 4th 616, 621 (Iowa State Commerce Comm'n 1982); Iowa Pub. Serv. Co., 46 Pub. Util. Rep. (PUR) 4th 339, 370 (Iowa State Commerce Comm'n 1982).

97. *Id.* The Iowa commission has either confused or attempted to create a hybrid of the "prudent management" and "cost sharing" theories. Purporting to use cost-sharing, the Iowa commission instead slips into a prudent-management rationale that is fundamentally incompatible with principled cost-sharing.

98. Northern States Power Co., No. F-3382, slip op. at 42 (S.D. Pub. Serv. Comm'n Dec. 15, 1981).

99. Iowa Pub. Serv. Co., No. RPU-80-65, at 13 (Iowa State Commerce Comm'n, Order on Rehearing, issued Apr. 30, 1982).

exclusion of plant from rate base,¹⁰⁰ a more subtle inattention to accurate forecasting poses a more difficult cost-allocation question. In a 1979 rate case, for example, the Pennsylvania Utility Commission examined Philadelphia Electric Company's estimates of its 1977 test year peak demand. Noting that the 1970 estimate overprojected by fifty-eight percent and that the late-1976 estimate was seven percent too high, the Pennsylvania commission complained of the "consistency of the error."¹⁰¹ It noted that "[i]n the past, with customers paying for company errors in forecasts with resulting excess capacity, there has been no incentive for company planners to adopt a more responsible and reliable posture in their forecasts of load requirements."¹⁰² The Iowa commission agreed, stating that an excess capacity adjustment would "encourage utilities to fine-tune their planning methodologies to more accurately predict demand" and to promote "a better match between load growth and generating capacity expansion."¹⁰³

Second, even after ascertaining the level of demand, a company must construct capacity both of the type and at the time necessary. Making a company bear the risk of overconstruction furthers this goal. The North Dakota commission noted that an excess capacity adjustment encourages a utility to "continuously strive for accurate and precise management of the timing of commercial operation of new baseload plants."¹⁰⁴

Finally, companies should continue to review the reasonableness of construction plans. Economic downturns, oil embargos, or sky-rocketing interest rates could easily eliminate the need for new plant. Originally prudent decisions may become imprudent in the face of subsequent developments. As the Iowa commission said, "[i]n the real world of competitive enterprise, management officials must continuously rethink prior decisions as new events unfold. Those who fail to stay on top of current events lose out to their competition. Iowa utilities should also maintain surveillance over costs associated with a particular decision"¹⁰⁵ Because public utilities do not have the

100. See, e.g., Gulf Power Co., No. 810136 (CR), slip op. at 20-23 (Fla. Pub. Serv. Comm'n Feb. 1, 1982).

101. Philadelphia Elec. Co., 31 Pub. Util. Rep. (PUR) 4th 15, 26 (Pa. Pub. Util. Comm'n 1979).

102. *Id.* at 26.

103. Iowa Pub. Serv. Co., No. RPU-80-65, at 13 (Iowa State Commerce Comm'n, Order on Rehearing, issued Apr. 30, 1982).

104. Montana-Dakota Util. Co., 44 Pub. Util. Rep. (PUR) 4th 249, 255-56 (N.D. Pub. Serv. Comm'n 1981); Otter Tail Power Co., 44 Pub. Util. Rep. (PUR) 4th 219, 227 (N.D. Pub. Util. Comm'n 1981).

105. Iowa Power & Light Co., Nos. RPU-78-27, RPU-78-30, RPU-80-36, slip op. at 6-7

competitive incentive to engage in such review, the Iowa commission concluded that "the responsibility falls upon us" to remedy that absence.¹⁰⁶

Policy considerations call for rejection of the prudent-management approach to evaluating excess capacity. The public benefits from accurate demand forecasting, from precise determinations of the type and timing of new capacity needs, and from meaningful review of ongoing construction. If a regulator considers only the prudence of the original decision to build, a utility company is not provided with the economic impetus to sharpen these planning tools. The possibility of having an excess capacity rate adjustment imposed in spite of the initial prudence of the decisions provides that missing incentive.

The Potential Remedies

Assuming an excess capacity adjustment is to be made, a utility commission has discretion to fashion an appropriate remedy. Although there is little uniformity among the states, it is possible to survey the various approaches to each element of typical adjustments.

Cost Allocation

Perhaps the most crucial aspect of an excess capacity adjustment is the way that costs are allocated to various elements of the utility plant. There are three distinct conceptual approaches to this problem: adjustment of the company's weighted rate of return, adjustment of the company's income, and treatment of the surplus generating capability as if it were construction work in progress.

The most common method used by public utility commissions is to adjust a company's weighted rate of return.¹⁰⁷ A company's weighted rate of return is the aggregation of its interest on debt, its return on

(Iowa State Commerce Comm'n Feb. 27, 1982); Iowa Pub. Serv. Co., 44 Pub. Util. Rep. (PUR) 4th 339, 368 (Iowa State Commerce Comm'n 1982).

106. *Id.*

107. A company's weighted rate of return is calculated by multiplying the embedded cost of debt, the return on preferred equity, and the return on common equity, respectively, by the percent of the total capital structure financed by each mechanism and adding the products. For example, assume a company has the following capital structure:

Common equity:	50%	Return:	15%
Preferred equity:	20%	Return:	12%
Debt:	30%	Interest:	10%
Total capital:	100%		

The company's weighted rate of return would be $(.50 \times 15) + (.30 \times 10) + (.20 \times 12) = 12.9\%$. K. HOWE & E. RASMUSSEN, *supra* note 77, at 100.

common equity, and its return on preferred equity. The return adjustments have varied widely in severity. In Wisconsin, the utility commission excluded the entire excess investment in the Pleasant Prairie plant from Wisconsin Electric Company's rate base.¹⁰⁸ The effect of this complete exclusion was to deny both the return on common equity and the recovery of long-term debt and preferred stock expenses. The Wisconsin commission also required the company to immediately write off the value of the excess investment as an investor loss.¹⁰⁹ Shareholders thus lost not only their profit, but experienced direct out-of-pocket losses as well. In contrast, the Pennsylvania commission completely excluded Philadelphia Electric Company's surplus investment from rate base, but allowed the company to recover the costs of depreciation, operation and maintenance, and fuel stocks from ratepayers.¹¹⁰ In this manner, a sharing of the burden of the excess was accomplished with investors "paying" the return *on* equity (*i.e.*, the profit) and ratepayers paying the return *of* equity (*i.e.*, the depreciation). So investors lost their expectation interest in obtaining a profit from their investment, while ratepayers were required to pay the direct out-of-pocket expenditures for facilities originally built to serve consumer needs.

Some commissions have limited excess capacity adjustments to a company's return on common equity. The North Dakota¹¹¹ and South Dakota¹¹² commissions held that shareholders would be allowed no return on equity in excess plant. Thus company investors would lose their expectation interests in a profit,¹¹³ but long-term debt and preferred stock dividends would be recovered.¹¹⁴

Iowa has adopted the most complex remedy in creating a sliding-

108. Wisconsin Elec. Power Co., No. 6630-ER-14, slip op. at 13 (Wis. Pub. Serv. Comm'n Jan. 13, 1982). The decision to disapprove all of the company's return, however, may well have been influenced by the commission's finding of imprudence.

109. *Id.* This is to be contrasted with a situation involving plant abandonments. In those cases, a company is frequently allowed to collect the out-of-pocket expenses for the abandoned project from the ratepayers as expenses amortized over a number of years. Since the costs are collected as expenses and not as depreciation of rate base, no return is paid by the ratepayers. J. SUELFLOW, *supra* note 5, at 72-73, 168-70.

110. Philadelphia Elec. Co., 37 Pub. Util. Rep. (PUR) 4th 381, 389 (Pa. Pub. Util. Comm'n 1980).

111. Otter Tail Power Co., 44 Pub. Util. Rep. (PUR) 4th 219, 228 (N.D. Pub. Serv. Comm'n 1981).

112. Northern States Power Co., No. F-3382, slip op. at 42 (S.D. Pub. Serv. Comm'n Dec. 15, 1981).

113. See *supra* note 15 & accompanying text.

114. This is not true for common stock. See *supra* note 73 & accompanying text. Nor is this true when a company successfully sells portions of its excess capacity. See *supra* notes 48-50 & accompanying text.

scale adjustment to common equity.¹¹⁵ The Iowa formula¹¹⁶ is a hybrid, based on the theory that "companies which have exceeded an acceptable reserve margin by only two percent should not be so heavily penalized as companies which have grossly overestimated demand."¹¹⁷ Iowa's formula denies a higher return on excess capacity that substantially exceeds the acceptable reserve margin than on capacity only minimally in excess.

Not all excess capacity adjustments change a company's rate of return. In New York, the utility commission imputed firm-capacity sales¹¹⁸ to the Niagara Mohawk Power Corporation.¹¹⁹ As the company made actual sales to the regional power pool, it was allowed to retain the net benefit of the sales to the limit of the imputed amount.¹²⁰ Net benefits above that figure were to be divided between the customers and the company on an eighty-percent/twenty-percent basis. This method of calculating the adjustment preserved the company's incentive to sell as much of its excess capacity as possible.¹²¹

115. Iowa Power & Light Co., Nos. RPU-78-27, RPU-78-30, RPU-80-36, slip op. at 12-13 (Iowa State Commerce Comm'n Feb. 27, 1982); Iowa-Illinois Gas & Elec. Co., 46 Pub. Util. Rep. (PUR) 4th 616, 622 (Iowa State Commerce Comm'n 1982); Iowa Pub. Serv. Co., 46 Pub. Util. Rep. (PUR) 4th 339, 370-71 (Iowa State Commerce Comm'n 1982). *But see supra* notes 15, 17.

116. Iowa's formula is as follows: First find the ratio of excess capacity to total generating capacity. That ratio, multiplied by the net investment in total capacity and weighted cost of equity, calculates the company's anticipated equity return on excess capacity. The proportion of the equity return on excess capacity which is disallowed is then the ratio of excess capacity to annual peak load, *i.e.*, the percentage by which excess capacity exceeds annual peak load. In formula form, the adjustment is expressed as follows:

$$\text{Return Adjustment} = \left[\frac{\text{Excess Capacity}}{\text{Total Generating Capacity}} \left(\frac{\text{Net Investment}}{\text{In Total Generating Capacity}} \right) \left(\frac{\text{Weighted Cost of Common Equity}}{\text{}} \right) \right] \frac{\text{Excess Capacity}}{\text{Annual Peak Load}}$$

Iowa-Illinois Gas & Electric Co., 46 Pub. Util. Rep. (PUR) 4th 616, 622 (Iowa State Commerce Comm'n 1982).

117. Iowa Power & Light Co., Nos. RPU-78-27, RPU-78-30, RPU-80-36, slip op. at 11-12 (Iowa State Commerce Comm'n Feb. 27, 1982); Iowa-Illinois Gas & Elec. Co., 46 Pub. Util. Rep. (PUR) 4th 616, 621 (Iowa State Commerce Comm'n 1982); Iowa Pub. Serv. Co., 46 Pub. Util. Rep. (PUR) 4th 339, 370 (Iowa State Commerce Comm'n 1982).

118. Firm capacity sales are those sales which are of power, or power-producing capacity, intended to be available at all times during the period covered by the commitment, even under adverse conditions. GLOSSARY, *supra* note 13, at 64.

119. Niagara Mohawk Power Corp., Nos. 27741, 27742, 27743, slip op. at 14 (N.Y. Pub. Serv. Comm'n Mar. 12, 1981). The amount imputed included only the net benefits resulting from such firm capacity sales.

120. *Id.* at 15.

121. *Id.*

One remedy that has been proposed without gaining much acceptance is to treat surplus generating capability as if it were construction work in progress (CWIP).¹²² This method would allow a company to accrue an allowance for funds used during construction (AFUDC) on that investment.¹²³ A company would not get an immediate return on surplus investment, but would be allowed to capitalize a return on the surplus until it was allowed into the rate base. The North Dakota commission has rejected this method,¹²⁴ finding that this approach would discourage improvement of load management and plant productivity.¹²⁵ Shareholder earnings would be postponed until load increased to make use of the excess, or until productivity dropped to a point that made it necessary. The commission also observed that the future addition to the rate base of the capitalized interest on surplus generation would result in higher rates to future customers since those customers would eventually be obliged to provide a return on the capitalized interest.¹²⁶ Despite these arguments, this method was used by the Missouri utility commission for the Iatan plant.¹²⁷

Only two adjustments fully accord with the used-and-useful theory of ratemaking: a total exclusion of plant from rate base and an imputation of revenues from firm-capacity sales.¹²⁸ Total exclusion has two advantages. First, it prevents a double recovery of costs. Without such exclusion, a company could collect its out-of-pocket expenses through rates paid by its customers, and also collect the price in any sale of all

122. "CWIP" is a term-of-art describing utility plant which is in the process of construction but not yet placed in service. GLOSSARY, *supra* note 13, at 18-19.

123. See *Montana-Dakota Util. Co.*, 44 Pub. Util. Rep. (PUR) 4th 249, 254-55 (N.D. Pub. Serv. Comm'n 1981); *Otter Tail Power Co.*, 44 Pub. Util. Rep. (PUR) 4th 219, 226 (N.D. Pub. Serv. Comm'n 1981).

124. *Montana-Dakota Util. Co.*, 44 Pub. Util. Rep. (PUR) 4th 249, 256 (N.D. Pub. Serv. Comm'n 1981); *Otter Tail Power Co.*, 44 Pub. Util. Rep. (PUR) 4th 219, 227-28 (N.D. Pub. Serv. Comm'n 1981); *Northern States Power Co.*, No. F3382, slip op. at 42 (S.D. Pub. Serv. Comm'n Dec. 15, 1981).

125. *Montana-Dakota Util. Co.*, 44 Pub. Util. Rep. (PUR) 4th 249, 254-55 (N.D. Pub. Serv. Comm'n 1981); *Otter Tail Power Co.*, 44 Pub. Util. Rep. (PUR) 4th 219, 226 (N.D. Pub. Serv. Comm'n 1981).

126. *Id.*

127. *Kansas City Power & Light Co.*, No. ER-80-48, slip op. at 21 (Mo. Pub. Serv. Comm'n July 2, 1980).

128. Strict application of the used-and-useful test results in total exclusion of the excess from rate base. However, an imputation of revenues has the same effect. While, under a revenue-imputation approach, the excess plant is included in rate base and a company is allowed to earn a rate of return upon that investment, the added cost of the capacity is offset by an equal "revenue" from the imputed sales. The effect is as if the plant had been excluded altogether.

or part of its excess to another utility.¹²⁹ Second, exclusion of excess capacity from rate base is more equitable than a cost-sharing approach. Investors subject themselves to the potential loss of their expectation interests in common stock dividends through a possible "cost-sharing" excess capacity adjustment. However, even after such an adjustment is made, if the excess capacity is sold, investors will not suffer a loss. Ratepayers, on the other hand, lose not simply an expectation interest but actual out-of-pocket cash and have no opportunity to insulate themselves from loss or to seek compensation for losses. If the investors are paid to take the risks associated with capital expansion,¹³⁰ then excess capacity should be completely excluded from rate base.¹³¹

It is difficult, however, to insist upon complete conceptual consistency in the practical world of utility regulation.¹³² Indeed, utility commissions have tended *not* to exclude excess capacity from a company's rate base altogether but have instead chosen a cost-sharing approach.¹³³ From a political perspective, it may be that imposing on utility companies the total financial burden of excess capacity is so intimidating that regulators would find no excess capacity to exist at all rather than face the severity of this remedy. In any case, the bottom line is that ratepayers should not bear the *total* financial responsibility for utility plant that provides no service to them. Whether that burden is alleviated by excluding excess capacity entirely from the rate base or by apportioning costs through a shared-risk approach raises questions of degree, not of fundamental principles.

Apportionment of Plant

Deciding on a cost allocation method does not provide a regulator with an excess capacity adjustment. A regulator must also identify the plants that will not be charged to ratepayers. North Dakota used the most recent unit in its calculations, asserting that inclusion of the Coyote station in rate base "creat[ed] the excess capacity problem."¹³⁴

129. This analysis assumes a sale of something less than a full ownership share in the excess plant (e.g., a short-term firm-capacity sale). Sale of full ownership would return the fixed costs to the seller, but would not provide continuing returns of the capital invested.

130. See *supra* notes 73-75 & accompanying text.

131. This is especially true if regulation stands as a surrogate for competition. See *supra* note 9 & accompanying text. But see Iowa-Illinois Gas & Elec. Co., 46 Pub. Util. Rep. (PUR) 4th 616, 621-22 (Iowa State Commerce Comm'n 1982).

132. See *supra* notes 7-11 & accompanying text.

133. See *supra* notes 90-106 & accompanying text.

134. Otter Tail Power Co., 44 Pub. Util. Rep. (PUR) 4th 219, 228 (N.D. Pub. Serv. Comm'n 1981). See also Montana-Dakota Util. Co., 44 Pub. Util. Rep. (PUR) 4th 249, 256 (N.D. Pub. Serv. Comm'n 1981).

The Pennsylvania commission took the opposite approach. Stating that the plants "have served their purpose for which they were constructed," the commission then apportioned the surplus to the "least economical units" and eliminated the depreciated original cost of those units from rate base.¹³⁵ South Dakota, on the other hand, rejected both approaches. It said that, "[j]ust as the Commission will not determine that the latest capacity addition constitutes the excess, it will not determine that the oldest plants constitute the excess. The Commission finds that the surplus capacity simply cannot be actually associated with specific generating units or transmission agreements."¹³⁶ The South Dakota commission made its adjustment based on the company's average net investment."¹³⁷ This method aggregates a company's total investment, including all types and all vintages of capacity, and applies the equity reduction to the average cost per megawatt. The Iowa commission also adopted this method.¹³⁸

The elimination of a company's most recent units is the plant-allocation method most consistent with the "shared risk" and "used and useful" theories. The most recent unit is most likely the "cause" of the excess capacity since it is the unit constructed to serve the demand that never materialized. Adequate generating capacity would have existed on the utility's system without the new plant.

The average net investment approach of South Dakota tends to reduce any excess capacity adjustment that is made. The use of net investment averages the relatively small capital cost of older units with the ordinarily higher costs of newer units.¹³⁹ The approach also aggregates the small capital cost of peaking units with the high costs of base load units.¹⁴⁰ These factors result in a lower adjustment than the method of eliminating the most recent units.

The aggregation of new plant with old, and of peaking units with base load units reduces the effect of an excess capacity adjustment on investor profits, but is not countered by equal reduction of the ratepayer's financial burden. Ratepayers continue to pay depreciation, in-

135. Philadelphia Elec. Co., 37 Pub. Util. Rep. (PUR) 4th 381, 388 (Pa. Pub. Util. Comm'n 1980).

136. Northern States Power Co., F-3382, slip op. at 42 (S.D. Pub. Serv. Comm'n Dec. 15, 1982).

137. *Id.* at 42-43.

138. Iowa Power & Light Co., Nos. RPU-78-27, RPU-78-30, RPU-80-36, slip op. at 11 (Iowa State Commerce Comm'n Feb. 27, 1982); Iowa-Illinois Gas & Elec. Co., 46 Pub. Util. Rep. (PUR) 4th 616, 622 (Iowa State Commerce Comm'n 1982); Iowa Pub. Serv. Co., 46 Pub. Util. Rep. (PUR) 4th 339, 370-71 (Iowa State Commerce Comm'n 1982).

139. See C. KOMANOFF, POWER PLANT COST ESCALATION, 14-15 (1981).

140. See R. POTTER, *supra* note 43, at 556-57.

terest, and preferred stock dividends. So investors continue to earn the greater part of the anticipated profit on all new investment, but the excess capacity adjustment does not save the ratepayer from contributing to expenses of excess plant.¹⁴¹ A net investment approach to apportioning excess utility plant is not an equal sharing, so it is inconsistent with the shared-risk theory. It also leaves significant costs of excess plant with ratepayers, and is therefore inconsistent with the used-and-useful theory.

In addition to the basic method of apportioning plant, state utility commissions have differed on the propriety of splitting a company's plant, or its share of a jointly-owned plant.¹⁴² If only a portion of a company's plant is deemed "excess capacity" by a state commission, the question becomes whether that section alone can be segmented from the whole and be given different ratemaking treatment. The North Dakota commission decided that a plant could be segmented, and based its excess capacity adjustment on only that portion of total plant generating capacity that was not needed.¹⁴³ Both Iowa¹⁴⁴ and South Dakota¹⁴⁵ have also made adjustments without regard to whether any particular unit would be artificially split.¹⁴⁶ Again, Penn-

141. Assume a utility has an allowed rate of return of 15%. Assume further that it currently has 10 mW of capacity at a total net depreciated cost of \$100. Assume the utility adds, at a cost of \$200, 10 mW of new capacity all of which is excess. Using the net investment approach, the net cost per mW of the excess is \$15 (20 mW of total capacity with a total net investment of \$300).

Inclusion of the new excess capacity in rate base will generate \$30 in new profit ($\$200 \times 15\% = \30). An excess capacity adjustment, using a net investment approach, that excludes "all" of the common equity return on the excess will yield a lost profit of only \$22.50 (10 mW of excess \times \$15 net cost per mW $\times 15\% = \$22.50$). Meanwhile, ratepayers continue to pay depreciation, debt expense and preferred stock dividends for the entire \$300 investment.

On the other hand, ratepayers may gain future benefits from the construction of new, technologically improved, generating plants. These benefits would come in the form of reduced fuel demand and greater reliability. The net investment approach then facilitates a sharing of the costs of these benefits.

142. The issue of whether a plant should be "split" or not is unique to excess capacity litigation. It addresses the question of whether the plant is "used or useful." For a plant to be included in rate base, it must be "used and useful." Traditionally, that phrase has been held to impose two distinct tests. See *supra* notes 83-84 & accompanying text.

143. Otter Tail Power Co., 44 Pub. Util. Rep. (PUR) 4th 219, 226 (N.D. Pub. Serv. Comm'n 1981). Cf. Montana-Dakota Util. Co., 44 Pub. Util. Rep. (PUR) 4th 249, 254 (N.D. Pub. Serv. Comm'n 1981). Montana-Dakota had an adjustment based upon a holding that 46 mW of its total 82 mW investment in the Coyote plant was excessive.

144. See *supra* note 116.

145. Northern States Power Co., No. F-3382, slip op. at 41 (S.D. Pub. Serv. Comm'n Dec. 15, 1981).

146. This result is inherent in the approach taken by these commissions. By simply comparing total capacity to the sum of peak demand plus reserve, no significance is given to the size of the individual units which comprise the total capacity.

sylvania has differed. Although Philadelphia Electric's total amount of excess capacity was found to be 775 megawatts, the sum of the capacity of the least economic units equalled only 748 megawatts and the adjustment was made using the smaller figure.¹⁴⁷

A decision on this issue is largely dictated by its decision on how to otherwise apportion the excess plant. By simply comparing total capacity to the sum of the peak demand plus reserve, no significance is given to the size of the individual units which comprise the total capacity. Any given unit is thus as likely to be split as not. If, on the other hand, an adjustment is made using the marginal unit as the plant to be disallowed from rate consideration, no segmentation of a plant will occur. Only when the excess is less than the total capacity of the new plant will the issue arise. In that case, it would seem to be more consistent with a cost-sharing theory and the used-and-useful standard to divide the plant rather than to impose all costs on the ratepayers simply because the company chose to build a bigger rather than a smaller unit.

Measurement of Excess

A third key issue is how much generation capability must be apportioned as "excess." The most common method is to compare total generating capacity to the sum of peak demand¹⁴⁸ plus an adequate reserve margin.¹⁴⁹ State commissions, however, have differed on what reserve margins are "adequate." Some commissions have adopted the reserve margins required to be maintained by the respective power pools for reliability purposes.¹⁵⁰ Others have considered expert testimony that sets an independent reserve margin,¹⁵¹ and have used the

147. Philadelphia Elec. Co., 37 Pub. Util. Rep. (PUR) 4th 381, 388-89 (Pa. Pub. Util. Comm'n 1980).

148. See *supra* note 43.

149. A "reserve margin" is that capacity which is the difference between net system capability and system peak load. It is the margin of capacity which is available to provide for scheduled maintenance, emergency outages, system operating requirements, and unforeseeable loads. GLOSSARY, *supra* note 13, at 10.

150. See, e.g., Niagara Mohawk Power Corp., Nos. 27741, 27742, 27743, slip op. at 10 (N.Y. Pub. Serv. Comm'n Mar. 12, 1982); Northern States Power Co., No. F-3382, slip op. at 16 (S.D. Pub. Serv. Comm'n Dec. 15, 1981).

The North Carolina Supreme Court instructively summarized the "used and useful" concept as applied to reserve margins: "The overbuilding of plant may occur in a variety of ways. For example, a spare tire is presently used and useful in the operation of an automobile, but twenty spare tires carried in the trunk would be the limit of sound management." *State ex rel. Util. Comm'n v. General Tel. Co.*, 189 S.E.2d 705, 727 (N.C. 1972).

151. Philadelphia Elec. Co., 37 Pub. Util. Rep. (PUR) 4th 381, 388 (Pa. Pub. Util. Comm'n 1980). North Dakota used the "annual peak and reserve obligation" without quantifying the amount of total capacity requirement to be attributed to either component and

midpoint of the range of reasonable reserves for making excess capacity rate adjustments. In contrast, the Iowa commission refused to rely on a reserve margin set solely for reliability purposes.¹⁵² That commission sought to find the reserves that were "economically justified" and that would "provide service at the lowest cost to consumers," including a consideration of outage costs.¹⁵³ The commission complained that "no party has presented us with the kind of facts on which to base a thorough economic analysis of the costs and benefits associated with specific levels of reserve capacity."¹⁵⁴

Setting a reserve margin also entails establishing the applicable peak demand used to determine reserves. The Iowa commission held that the actual test-year peak was the most appropriate figure:

Use of forecasted demand would provide an incentive to utilities to overestimate demand in order to minimize the amount of capacity we would consider to be excessive. Utilities should be encouraged to improve their demand forecasts, not to inflate them. We prefer to rely on what is known and measurable, that is, a utility's actual peak load.¹⁵⁵

Four states, on the other hand, have adopted the use of projected peak demands without discussion.¹⁵⁶

without identifying the source of the reserve "obligation." *Montana-Dakota Util. Co.*, 44 Pub. Util. Rep. (PUR) 4th 249, 254 (N.D. Pub. Serv. Comm'n 1981); *Otter Tail Power Co.*, 44 Pub. Util. Rep. (PUR) 4th 219, 226 (N.D. Pub. Serv. Comm'n 1981).

152. *Iowa-Illinois Gas & Elec. Co.*, 46 Pub. Util. Rep. (PUR) 4th 616, 619-20 (Iowa State Commerce Comm'n 1982); *Iowa Pub. Serv. Co.*, 46 Pub. Util. Rep. (PUR) 4th 339, 368-69 (Iowa State Commerce Comm'n 1982).

153. Customer outage costs include costs to the consumer due to a power cutoff. They range from actual costs such as that of spoiled food due to lack of refrigeration, to the inconvenience of not having lights, hot water or cooking, to illness or death from not having heat. See ELEC. POWER RESEARCH INST. (EPRI), *supra* note 44, at S-5. For an extensive discussion of outage costs, see generally M. MUNASINGHE, *THE ECONOMICS OF POWER SYSTEM RELIABILITY AND PLANNING* 45-86, 163-75 (1979).

154. The Iowa commission still adopted a 25% reserve margin as "justified." This reserve margin should be compared to MAPP's reserve obligation of 15%. The Iowa commission rejected use of the MAPP reserve, stating that setting allowable reserves at the power pool reliability requirement meant that the minimum and maximum allowable capacity were identical, "a standard of precision that no utility manager can reasonably be expected to meet." *Iowa-Illinois Gas & Elec. Co.*, 46 Pub. Util. Rep. (PUR) 4th 616, 620 (Iowa State Commerce Comm'n 1982); *Iowa Pub. Serv. Co.*, 46 Pub. Util. Rep. (PUR) 4th 339, 369 (Iowa State Commerce Comm'n 1982). See also *Iowa Power & Light Co.*, Nos. RPU-78-27, RPU-78-30, RPU-80-36, slip op. at 8 (Iowa State Commerce Comm'n Feb. 27, 1982).

155. *Iowa Pub. Serv. Co.*, No. RPU-80-65, at 14 (Iowa State Commerce Comm'n, Order on Rehearing, issued Apr. 30, 1982).

156. *Montana-Dakota Util. Co.*, 44 Pub. Util. Rep. (PUR) 4th 249, 254 (N.D. Pub. Serv. Comm'n 1981); *Otter Tail Power Co.*, 44 Pub. Util. Rep. (PUR) 4th 219, 226 (N.D. Pub. Serv. Comm'n 1981); *Niagara Mohawk Power Corp.*, Nos. 27741, 27742, 27743, slip op. at 10 (N.Y. Pub. Serv. Comm'n Mar. 12, 1982); *Philadelphia Elec. Co.*, 37 Pub. Util. Rep.

The use of an actual peak is consistent with both a shared-risk approach and used-and-useful theory. The issue involves whether the state commission is to consider the decisionmaking process or the results of that process.¹⁵⁷ Use of projected peak demands reflects a "prudent management" bias by focusing on the adequacy of the forecasting process instead of the actual extent of capacity not serving present customers. Both the shared-risk approach and the used-and-useful theory allocate costs according to the actual state of affairs. Use of actual, instead of projected, peak demand, therefore, is more consistent with these theories. For largely the same policy reasons that a process-oriented theory was rejected as support for the "prudent management" concept, so too should the use of projected peak loads be rejected.¹⁵⁸

Conclusion

The cost of new power plant construction has come under increasingly strict scrutiny. Many consumer advocates argue that electric companies have built too many power plants; that some of those plants do not produce energy for present customers; and that investors, not customers, should pay for plants that are not useful. Reduced energy use, companies respond, is a temporary phenomenon related to a depressed economy, and ratepayers should be financially responsible for capacity constructed to meet reasonably foreseeable demands. The question of who should pay for "excess capacity" has confronted many state public utility commissions in recent years.

The better-reasoned regulatory response to the excess capacity issue has been the adoption of a cost-sharing approach.¹⁵⁹ Such an action allocates the financial responsibility for surplus generating capability between investor and customer. Even if the company was reasonable in building a plant, ratepayers should not be completely responsible for the costs of unused capacity. Excess capacity adjustments have generally been effected through modifications to a company's weighted rate of return.

In contrast, the so-called "prudent management theory" has serious conceptual and policy flaws and has been rejected by several state

(PUR) 4th 381, 388 (Pa. Pub. Util. Comm'n 1980); Northern States Power Co., No. F-3382, slip op. at 16 (S.D. Pub. Serv. Comm'n Dec. 15, 1981).

157. See *supra* notes 51-89 & accompanying text.

158. See *supra* notes 90-106 & accompanying text.

159. This conclusion recognizes that strict application of the used and useful standard has not generally been made on a regulatory level. But see Quapaw Water Co., 39 Pub. Util. Rep. (PUR) 4th 259, 280 (Ark. Pub. Serv. Comm'n 1980).

utility commissions. This theory misconstrues a rate adjustment for the surpluses as being a "penalty" to the investor rather than as a cost-allocation mechanism. In fact, no regulatory intent to seek a punitive retribution exists and no company culpability need be found for an adjustment to be made. On a policy level, state commissions have observed that imposing on the company financial responsibility for its mistakes will force it to improve its planning tools in all areas of capacity expansion.

Utility ratemaking involves a constant balancing of the competing interests of investors and ratepayers. In the debate over excess electric generating capacity, adoption of a cost-sharing approach seems to better resolve that conflict than adoption of a prudent-management approach.

